

WHAT IS CLAIMED IS:

1. An electrophotographic photoreceptor comprising a conductive support and a photosensitive layer disposed on the conductive support,

wherein the photosensitive layer comprises a silicon compound-containing layer containing a silicon compound, and the silicon compound-containing layer further contains a resin, and

wherein the photosensitive layer has a peak area in the region of -40 to 0 ppm ( $S_1$ ) and a peak area in the region of -100 to -50 ppm ( $S_2$ ) in a  $^{29}\text{Si}$ -NMR spectrum satisfying the following equation (1):

$$S_1/(S_1 + S_2) \geq 0.5 \quad (1).$$

2. The electrophotographic photoreceptor according to claim 1, wherein the silicon compound-containing layer is formed from a coating solution, and the resin contained in the silicon compound-containing layer is a resin soluble in a liquid component in the coating solution used for formation of the silicon compound-containing layer.

3. The electrophotographic photoreceptor according to claim 1, having a value of  $S_1/(S_1+S_2)$  in formula (1) of 0.6 or more.

4. The electrophotographic photoreceptor according to claim 1, wherein the silicon compound contains two or more silicon atoms in its molecule.

5. The electrophotographic photoreceptor according to claim 1, wherein the silicon compound-containing layer contains at least one of silicon-containing compounds represented by the following general formulas (2) to (4) or a hydrolysate or hydrolytic condensate thereof:



wherein  $W^1$  represents a divalent organic group,  $W^2$  represents an organic group derived from a compound having hole transport capability, R represents a member selected from the group consisting of a hydrogen atom, an alkyl group and a substituted or unsubstituted aryl group, Q represents a hydrolytic group, D represents a divalent group, a represents an integer of 1 to 3, b represents an integer of 2 to 4, and c represents an integer of 1 to 4.

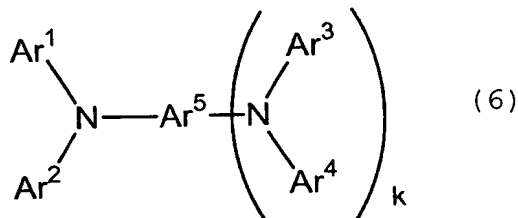
6. The electrophotographic photoreceptor according to claim 5, wherein the number of silicon atoms derived from the silicon-containing compounds represented by the following general formulas (2) to (4) in the silicon

compound-containing layer satisfies the following equation (5):

$$(N_{a=3} + N_{c \geq 3}) / N_{\text{total}} \leq 0.5 \quad (5)$$

wherein  $N_{a=3}$  represents the number of silicon atoms derived from  $-\text{SiR}_{3-a}\text{Q}_a$  of the silicon compound represented by general formula (2) or (3) in which  $a$  is 3,  $N_{c \geq 3}$  represents the number of silicon atoms derived from the silicon compound represented by general formula (4) in which  $c$  is 3 or 4, and  $N_{\text{total}}$  represents the total of the number of silicon atoms derived from  $-\text{SiR}_{3-a}\text{Q}_a$  of the silicon compound represented by general formula (2) or (3) and the number of silicon atoms derived from the silicon compound represented by general formula (4).

7. The electrophotographic photoreceptor according to claim 1, wherein the silicon compound-containing layer contains a compound which is the silicon compound represented by general formula (3) wherein  $W^2$  is an organic group represented by the following general formula (6), or a hydrolysate or hydrolytic condensate thereof:



wherein  $\text{Ar}^1$ ,  $\text{Ar}^2$ ,  $\text{Ar}^3$  and  $\text{Ar}^4$ , which may be the same or different, each represents a substituted or unsubstituted aryl group,  $\text{Ar}^5$  represents a substituted or unsubstituted aryl or arylene group,  $k$  represents 0 or 1, and at least one of  $\text{Ar}^1$  to  $\text{Ar}^5$  has a bonding hand to connect with  $-\text{D}-\text{SiR}_{3-a}\text{Q}_a$  in general formula (3).

8. The electrophotographic photoreceptor according to claim 1, wherein the silicon compound-containing layer further contains at least one kind of fine particles.

9. The electrophotographic photoreceptor according to claim 8, wherein the fine particles contain a silicon atom or a fluorine atom.

10. A process cartridge comprising:  
an electrophotographic photoreceptor; and  
at least one of: a developing unit for developing an electrostatic latent image formed on the electrophotographic photoreceptor to form a toner image; and a cleaning unit for removing toner remaining on the electrophotographic photoreceptor after transfer of the toner image,

wherein the electrophotographic photoreceptor comprises a conductive support and a photosensitive layer disposed on the conductive support,

wherein the photosensitive layer comprises a silicon compound-containing layer containing a silicon compound, and the silicon compound-containing layer further contains a resin, and

wherein the photosensitive layer has a peak area in the region of -40 to 0 ppm ( $S_1$ ) and a peak area in the region of -100 to -50 ppm ( $S_2$ ) in a  $^{29}\text{Si}$ -NMR spectrum satisfying the following equation (1):

$$S_1/(S_1 + S_2) \geq 0.5 \quad (1).$$

11. An image forming apparatus comprising:
- an electrophotographic photoreceptor;
  - a charging unit for charging the electrophotographic photoreceptor;
  - an exposing unit for exposing the charged electrophotographic photoreceptor to form an electrostatic latent image;
  - a developing unit for developing the electrostatic latent image to form a toner image;
  - a transfer unit for transferring the toner image to a medium to which the toner image is to be transferred; and

a cleaning unit for removing toner remaining on the electrophotographic photoreceptor after the transfer of the toner image,

wherein the electrophotographic photoreceptor comprises a conductive support and a photosensitive layer disposed on the conductive support,

wherein the photosensitive layer comprises a silicon compound-containing layer containing a silicon compound, and the silicon compound-containing layer further contains a resin, and

wherein the photosensitive layer has a peak area in the region of -40 to 0 ppm ( $S_1$ ) and a peak area in the region of -100 to -50 ppm ( $S_2$ ) in a  $^{29}\text{Si}$ -NMR spectrum satisfying the following equation (1):

$$S_1 / (S_1 + S_2) \geq 0.5 \quad (1).$$

12. The image forming apparatus according to claim 11, wherein the transfer unit is an intermediate transfer body for temporarily transferring the toner image formed on the electrophotographic photoreceptor.

13. The image forming apparatus according to claim 12, having a plurality of electrophotographic photoreceptors arranged along the intermediate transfer body.